

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Auch et al.	Art Unit	: 2815
Serial No.	: 09/989,362	Examiner	: Jasmine Clark
Filed	: November 20, 2001	Conf. No.	: 1107
Title	: ENCAPSULATION OF ELECTRONIC DEVICES		

**Mail Stop Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

REPLY TO ACTION OF JUNE 4, 2007

In reply to the Office Action of June 4, 2007, Applicant submits the following remarks.  
Applicant respectfully requests reconsideration in view of these remarks.

Section 102 Rejections

Claims 8, 9, 12/8, 12/9, 13/8, 13/9, 14-16, 24-26, 56 and 58-68 are rejected as being anticipated by U.S. Patent No. 5,687,465 ("Hinata"). Applicant respectfully traverses.

Claim 8 requires spacer particles fixed to an active component, the spacer particles preventing the cap from contacting the active component, wherein the spacer particles are coated with an adhesive layer.

Hinata describes a device including two substrates 1 with spacers 4 sprayed on one of the substrates 1 (FIG. 1, col. 4, lines 4-24). An epoxy system adhesive is used to form seal members 5. A further epoxy system adhesive 13 covers the edges of the substrates (col. 4, lines 25-31). FIG. 1 has been reproduced below for the Examiner's convenience.

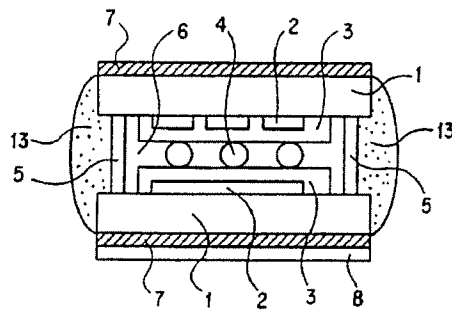


FIG.1

The claimed spacer particles are fixed to an active component. The definition of fixed is “not adjustable” (Webster’s Third New International Dictionary, 1993, page 861). Hinata does not describe the spacers 4 as being fixed to the substrate or to the device. The spacers 4 are sprayed on the substrate by a wet spray process, the two substrates 1 are bonded together and then liquid crystal material 6 is filled into the space between the substrates (col. 4, lines 4-23). While the spacers 4 are trapped between the two substrates 1, the liquid crystal material does not fix the spacers 4 in place. Liquid crystal material is not solid, but is liquid as the name implies. Thus, any deformation of the substrates moves the liquid crystal, which would in turn also move the spacers. The purpose of the spacers is to prevent pressure on the substrates from causing electrodes 3 from contacting one another (col. 1, lines 30-34). However, the spacers are not described as being fixed in place. For at least this reason, applicant submits that claim 8 is not anticipated by Hinata. Thus, Hinata does not teach or suggest fixed spacers. Similarly, claims 9, 12/8, 12/9, 13/8, 13/9, 14-16 and 24-26, which depend from claim 8, are not anticipated by Hinata.

Claim 56 requires spacer particles that are fixed to a surface of the device region.

As noted above, Hinata does not teach or suggest fixed spacers. Applicant respectfully submits that claims 56 is not anticipated by Hinata, nor are claims 58-68 anticipated by Hinata, because these claims depend from claim 56.

Applicant respectfully requests withdrawal of the anticipation rejections.

#### Section 103 Rejections

Claims 10 and 11 were rejected as obvious and therefore unpatentable over Hinata in view of U.S. Patent No. 6,309,502 (“Hiroshige”) together with U.S. Patent No. 6,621,173 (“Yamakawa”). Applicant respectfully traverses.

Claims 10-11 depend from claim 8 and necessarily require all of the limitations of claim 8.

Hiroshige describes a conductive epoxy resin (title). Yamakawa describes a structure with a semiconductor device 1 bonded to a chip attachment element 9 by an adhesive 4 (FIG. 2, col. 4, lines 51-63). Solder balls 10 electrically connect the semiconductor device 1 to interconnects 4.

Hinata, Hiroshige and Yamakawa all fail to suggest or disclose spacer particles that are fixed to an active component. For at least this reason, applicant submits that no *prima facie* case of obviousness is pending with respect to claims 10 and 11.

Applicant respectfully requests withdrawal of the obviousness rejections.

#### Unaddressed Claims

Applicant notes that claim 57 was not addressed. Claim 57 is depends from claim 56. For at least the reasons provided above with respect to claims 56, applicant submits that claim 57 is not anticipated by Hinata. Claims 12/10-11 and 13/10-11 were also not addressed. Applicant submits that the same reason for lack of anticipation applies to these claims.


#### Allowed Claims

Applicant thanks the Examiner for finding that claims 1-7 and 12/1-12/7 are allowed.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: August 31, 2007

  
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